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APPLICATION NUMBER: 60/729,112

FILING DATE: October 20, 2005

THE COUNTRY CODE AND NUMBER OF YOUR PRIORITY APPLICATION, TO BE USED FOR FILING ABROAD UNDER THE PARIS CONVENTION, IS US60/729,112

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PTO/SB/16 (8-00)

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PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

01789
U.S. PTO

113264 U.S. PTO
60/729112

102005

INVENTOR(S)

Given Name (first and middle [if any]) Alex	Family Name or Surname WINOKUR	Residence (City and either State or Foreign Country) 108 Hatishbi street Haifa, Israel
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Additional inventors are being named on the _____ separately numbered sheets attached hereto.

TITLE OF THE INVENTION (280 characters max)

A METHOD AND AN APPARATUS FOR RECORDING LAST EVENTS PRIOR TO DISASTER AND DISTRIBUTING THEM TO ANY DISTANCE

Direct all correspondence to:		CORRESPONDENCE ADDRESS		
<input type="checkbox"/> Customer Number		<input type="checkbox"/> Place Customer Number Bar Code Label here		
OR Type Customer Number here ABELMAN, FRAYNE & SCHWAB Attorneys at Law				
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ENCLOSED APPLICATION PARTS (check all that apply)

<input checked="" type="checkbox"/> Specification (includes drawings) Number of Pages	4	<input type="checkbox"/> CD(s), Number	
<input type="checkbox"/> Drawing(s) Number of sheets		<input type="checkbox"/> Other (specify)	
<input type="checkbox"/> Application Data Sheet. See 37 CFR 1.76			

METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT (check one)

<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.	FILING FEE AMOUNT (\$)
<input checked="" type="checkbox"/> A check or money order is enclosed to cover the filing fees	
<input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number:	01-0035
<input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.	\$100.00

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

<input checked="" type="checkbox"/> No.	
<input type="checkbox"/> Yes, the name of the U.S. Government agency and the Government contract number are:	

Respectfully submitted,

SIGNATURE 

TYPED or PRINTED NAME **Jay S. Cinamon**

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Date **October 20, 2005**

REGISTRATION NO.

24,156

(if appropriate)

207,280

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

STATEMENT OF FILING BY EXPRESS MAIL 37 C.F.R. § 1.10

This correspondence is being deposited with the United States Postal Service on October 20, 2005 in an envelope as "Express Mail Post Office to Addressee" Mailing Label Number ER 842 053 417 US addressed to the Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450.

1. Invention Name

A Method and an Apparatus for Recording Last Events Prior to Disaster, and Distributing Them to any Distance

2. Inventors

Alex Winokur

3. Background

A disaster scenario is a situation where the entire facility loses its ability to function and most of the data it maintains is (at least temporarily) lost. Disasters occur as a result of terrorist attacks, earthquakes, floods, major power outages etc. It is very important to be able to protect data which was generated in the last few couple of minutes prior to the disaster. This data falls in the two following major domains:

1. IT domain. This includes last transactions. Last updates to configuration files and last updates to other flat files
2. Security and surveillance domain. Last pictures from surveillance cameras, last phone calls, last voice recordings, last data from access control devices etc. This data is especially important if the disaster is a result of a terrorist attack

To protect data in case of a disaster, a replica of the data has to be maintained at a remote location (of typically more than 200 miles) using mirroring technology. [1] explains why neither synchronous nor asynchronous data replications are good enough for this purpose. It also specifies how to overcome these drawbacks by capturing and protecting the data for the IT domain across disaster situations using a black box apparatus. In this disclosure we extend the concept of the black box apparatus to additional data domains and devise a method to make the protected data available within a few hours at another location at any distance.

4. Problem Definition

[1] outlines the method for protecting IT data through disaster scenarios using a black box. However to gain access to this protected data one has to physically retrieve the black box. In certain situations this can take many hours or even days depending on the type of disaster.

In this invention we propose a method to utilize cellular communication or other means of communications which can withstand a disaster to enable fast access to any data that survived a disaster.

5. In case of early disaster detection update operations will be blocked by the protection machine
6. In case of early disaster detection protection machine will try to transmit data accumulated in the black box using regular high bandwidth communication line.
7. In case of early disaster detection only if regular communication fails cellular communication will be used.

References

[1] A Method and an Apparatus for Synchronous Mirrored Data Protection at Any Distance, U.S. Provisional Patent Application 60/673,664, filed April 20, 2005, which is incorporated herein by reference.

5. The proposed solution

The proposed solution consists of four components:

1. The protection machine of ref [1] is connected to additional data sources like surveillance cameras recording system, access control systems and PABX systems to allow the protection of any type of data.
2. The black box apparatus of ref [1] is augmented with cellular transmitter to allow immediate transmission of protected data to remote location after disaster.
3. An early detection mechanism connecting to the protection machine
4. A redundant configuration of black boxes is being constructed to increase the reliability of the cellular transmission

Connecting the Protection Machine

Since all data belonging to security and surveillance sources is recorded to magnetic media in the same way as data belonging to the IT domain. The methods of connecting the protection machine of [1] such that it can store the data to be protected into the black box are the same as proposed there except that in certain cases instead to application server the protection machine is connected to the servers which push surveillance and security data to disks as described in figure 1.

Black Box Apparatus

The black box apparatus of ref [1] is further furnished with a modular transmitter with omni directional antenna. The transmitter can be either a cellular transmitter, WiMax transmitter or any other wireless transmitter that will be used in the market. The

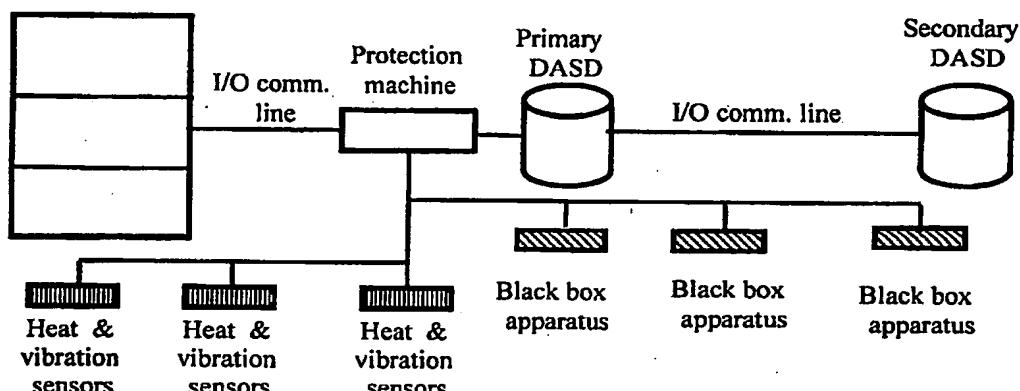


Figure 1

transmitting unit is easily replaceable to accommodate different transmission methods and frequencies as dictated by the particular location where the boxes are located.

When disaster occurs the black box will detect a power or communication outage, the omni antenna will emerge from the box and the transmitter will transmit the contents of the flash memory to remote location enabling the same type of recovery as explained in [1].

An Early Detection Mechanism

In many occasions is possible to detect the development of a disaster in its very early stages. Fires for example, can be detected by temperature rising above normal, and earthquake can be detected by vibrations. Sensors are connected to the protection machine to detect such situations. In the implementation of Figure 1 where the protection machine connects in band between the application server and the mirroring application assumed to run on the primary (local) DASD, if a disaster is detected in an early stage, the protection machine will do the following:

1. Stop forwarding the write operation to the local DASD
2. Retrieve data from the black box and transmit it over regular communication lines to remote location
3. When regular communication lines go out of service cut power to the black box itself

This chain of events will halt all applications (write operations can not be executed) and start data transmission at high transfer rate on regular lines to remote location until when these lines go out of service in which case wireless transmission will commence.

A Redundant Configuration

To increase the reliability of the cellular data transmission the protection machine distributes multiple copies of the same data to multiple black boxes which are scattered throughout the facility (see figure 1). When power outage to the black boxes is detected they all start transmitting the content of their flash in parallel to remote location, each on different communication channel.

6. Claims

1. The protection machine can connect to IT data streams and to surveillance, access control and telephony data streams
2. The protection machine can connect to any digital data stream generated in the facility
3. A black box apparatus which
 - a. Includes a wireless transmitter
 - b. The transmitter module is easily replaceable to accommodate different communication methods and different communication bandwidths
 - c. The transmitter starts transmitting data when power outage to the box is detected or by manual activation
 - d. Each transmitter is capable of transmitting on multiple channels to increase communication bandwidth
 - e. Each box can transmit different chunks of same data if it senses using wireless communication between boxes that other boxes are transmitting other chunks of the data
 - f. Coordination between boxes can be done by the remote receiver
 - g. Use in a similar way any other means of communications which can withstand a disaster can be used
4. A early detection sensors for earthquake fires and other disasters are connected to the protection machine

From the INTERNATIONAL BUREAU

PCT

**NOTIFICATION CONCERNING
SUBMISSION OR TRANSMITTAL
OF PRIORITY DOCUMENT**

(PCT Administrative Instructions, Section 411)

Date of mailing (day/month/year) 02 June 2006 (02.06.2006)	To: SANFORD T. COLB & CO. P.O. Box 2273 76122 Rehovot ISRAËL
Applicant's or agent's file reference 56571	IMPORTANT NOTIFICATION
International application No. PCT/IL2006/000453	International filing date (day/month/year) 10 April 2006 (10.04.2006)
International publication date (day/month/year) Not yet published	Priority date (day/month/year) 20 April 2005 (20.04.2005)
Applicant AXXANA (ISRAEL) LTD. et al	

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2. *(If applicable)* The letters "NR" appearing in the right-hand column denote a priority document which, on the date of mailing of this Form, had not yet been received by the International Bureau under Rule 17.1(a) or (b). Where, under Rule 17.1(a), the priority document must be submitted by the applicant to the receiving Office or the International Bureau, but the applicant fails to submit the priority document within the applicable time limit under that Rule, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
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<u>Priority date</u>	<u>Priority application No.</u>	<u>Country or regional Office or PCT receiving Office</u>	<u>Date of receipt of priority document</u>
20 April 2005 (20.04.2005)	60/673,664	US	24 May 2006 (24.05.2006)
20 October 2005 (20.10.2005)	60/729,112	US	24 May 2006 (24.05.2006)

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